

REMARKS

Claims 1-7 were examined and reported in the Office Action. Claims 1-7 are rejected. Claims 1 and 7 are amended. Claims 1-7 remain.

Applicant requests reconsideration of the application in view of the following remarks.

I. In the Drawings

It is asserted in the Office Action that the drawings are objected to because Fig. 1 does not have the legend "Prior Art." A replacement sheet for Fig. 1 is enclosed adding the legend "Prior Art." Approval is respectfully requested.

II. 35 U.S.C. § 102(b)

A. It is asserted in the Office Action that claims 1-5 and 7 are rejected under 35 U.S.C. § 102(b), as being anticipated by U. S. Patent No. 4,996,573 issued to Hack et al. ("Hack"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

According to MPEP §2131, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.' (Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). 'The identical invention must be shown in as complete detail as is contained in the ... claim.' (Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)). The elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, *i.e.*, identity of terminology is not required. (In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990))."

Applicant's amended claim 1 contains the limitations of "[a] vertical structure thin film transistor comprising a stacked structure of a substrate; a first electrode; a dielectric thin film; a second electrode made of metal and divided into a plurality of electrode

portions; a semiconductor thin film; and a third electrode, wherein current directly flows between the second and third electrodes perpendicularly to the substrate and is modulated by an electric field generated from the first electrode parallel to the current."

Hack discloses a thin film transistor having electrode fingers that include metal stripe 20, semiconductor stripes 18 and barrier side walls 22. (Hack, Figs. 1 and 3). A Schottky barrier between metal stripes 20 and a semiconductor charge transport layer prevents current from flowing directly between the metal stripes 20 and a drain electrode 26. (Hack, column 4, lines 23-27). Distinguishable, Applicant's claimed invention includes a second electrode that is made of metal, not metal stripes, semiconductor stripes and side walls. Moreover, in Applicant's claimed invention "current directly flows between the second and third electrodes perpendicularly to the substrate and is modulated by an electric field generated from the first electrode parallel to the current."

Therefore, since Hack does not disclose, teach or suggest all of Applicant's amended claim 1 limitations, Applicant respectfully asserts that a *prima facie* rejection under 35 U.S.C. § 102(b) has not been adequately set forth relative to Hack. Thus, Applicant's amended claim 1 is not anticipated by Hack. Additionally, the claims that directly or indirectly depend on claim 1, namely claims 2-5 and 7, are also not anticipated by Hack for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 102(b) rejections for claims 1-5 and 7 are respectfully requested.

B. It is asserted in the Office Action that claims 1 and 3-5 are rejected under 35 U.S.C. § 102(b), as being anticipated by U. S. Patent No. 4,949,141 issued to Busta ("Busta"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

Busta discloses a vertical gate thin film transistor. Distinguishable from Busta, Applicant's claimed invention includes "a second electrode made of metal and divided into a plurality of electrode portions."

Therefore, since Busta does not disclose, teach or suggest all of Applicant's amended claim 1 limitations, Applicant respectfully asserts that a *prima facie* rejection under 35 U.S.C. § 102(b) has not been adequately set forth relative to Busta. Thus, Applicant's amended claim 1 is not anticipated by Busta. Additionally, the claims that directly or indirectly depend on claim 1, namely claims 3-5, are also not anticipated by Busta for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 102(b) rejections for claims 1 and 3-5 are respectfully requested.

III. 35 U.S.C. § 103

A. It is asserted in the Office Action that claim 4 is rejected in the Office Action under 35 U.S.C. § 103(a), as being unpatentable over Hack, in view of U. S. Patent No. 5,817,550 issued to Carey et al. ("Carey").

According to MPEP §2142 "[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." (*In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). Further, according to MPEP §2143.03, "[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (*In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974))." "All words in a claim must be

considered in judging the patentability of that claim against the prior art.” (*In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), emphasis added.)

Applicant’s claim 4 directly depends on amended claim 1. Applicant has addressed Hack regarding amended claim 1 above in section II(A).

Carey is relied on solely for alternate substrate materials of “silicon or plastic.” (Office Action, page 5). Like Hack, Carey does not teach, disclose or suggest “a second electrode made of metal and divided into a plurality of electrode portions; a semiconductor thin film; and a third electrode, wherein current directly flows between the second and third electrodes perpendicularly to the substrate and is modulated by an electric field generated from the first electrode parallel to the current.”

Therefore, even if Hack is combined with Carey, the resulting invention would still not teach, disclose or suggest all the limitations contained in Applicant's amended claim 1, as listed above. Since neither Hack, Carey, nor the combination of the two teach, disclose or suggest all the limitations of Applicant's claim 1, there would not be any motivation to arrive at Applicant's claimed invention. Thus, Applicant's claim 1 is not obvious over Hack in view of Carey since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claim that directly depends from claim 1, namely claim 4, would also not be obvious over Hack in view of Carey for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for claim 4 is respectfully requested.

B. It is asserted in the Office Action that claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over Hack, and further in view of U. S. Patent No. 6,215,130 issued to Dodabalapur (“Dodabalapur”).

Applicant’s claim 6 directly depends on amended claim 1. Applicant has addressed Hack regarding amended claim 1 above in section II(A).

Dodabalapur is relied on solely for asserting "the semiconductor material can be organic." (Office Action, page 5). Like Hack, Dodabalapur does not teach, disclose or suggest "a second electrode made of metal and divided into a plurality of electrode portions; a semiconductor thin film; and a third electrode, wherein current directly flows between the second and third electrodes perpendicularly to the substrate and is modulated by an electric field generated from the first electrode parallel to the current."

Therefore, even if Hack is combined with Dodabalapur, the resulting invention would still not teach, disclose or suggest all the limitations contained in Applicant's amended claim 1, as listed above. Since neither Hack, Dodabalapur, nor the combination of the two teach, disclose or suggest all the limitations of Applicant's claim 1, there would not be any motivation to arrive at Applicant's claimed invention. Thus, Applicant's claim 1 is not obvious over Hack in view of Dodabalapur since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claim that directly depends from claim 1, namely claim 6, would also not be obvious over Hack in view of Dodabalapur for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for claim 6 is respectfully requested.

CONCLUSION


In view of the foregoing, it is submitted that claims 1-7 patentably define the subject invention over the cited references of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes a telephone conference would be useful in moving the case forward, he is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail with sufficient postage in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450 on March 4, 2005.


Jean Svoboda